DOCUMENT RESUME

ED 172 484 EC 114 877

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TITLE Evaluation of the Alexandria, Virginia Program for Talented Elementary Students, 1974-1977.
INSTITUTION Alexandria City Schools, Va.; Morra (Frank) and Associates, Washington, D.C.
SPONS AGENCY Bureau of Education for the Handicapped (DHEW/OE), Washington, D.C.
PUB DATE 30 Mar 78
NOTE 8p.; Paper presented at the Annual Convention of the American Educational Research Association (Toronto, Canada, March 30, 1978); For related information, see EC 104 197-198

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS *Academic Achievement; *Academically Gifted; *Creativity; Elementary Education; Longitudinal Studies; Program Effectiveness; Program Evaluation; *Self Concept; Social Relations; *Student Attitudes; *Talented Students

ABSTRACT

The paper summarizes a 3-year longitudinal study of a differentiated education program for elementary students with exceptional academic and arts abilities. It is explained that three program options were examined (interest activities outside the regular classroom, curriculum area learning centers, and enrichment). Analyses of pre- and posttests on the SRA Achievement Tests, Torrance Tests of Creative Thinking, Piers-Harris Children's Self-Concept Test, and FIRO-BC, as well as self-reported attitude scales and parent and teacher surveys are reviewed. Presented are findings on the program's effect on the following aspects (sample findings in parentheses): academic achievement (the performance of Ss improved beyond the expectations of normal maturation and development); creativity (Ss had meaningful growth in creativity during their participation in the program); social relations (the program had little or no effect on the social relations of Ss); self concept (Ss had slightly higher scores on the self concept scale than the general population); and attitude toward school and learning (there was a net change in the direction of a more positive attitude toward school and learning. (CL)

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ED172484

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Presented
at the
1978 Convention
of the
American Educational Research Association
Toronto,
March 30, 1978

EC114877

Evaluation of the Alexandria, Virginia Program for Talented Elementary Students, 1974-1977

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Presented at the 1978 Convention of the American Educational Research Association: Toronto, March 30, 1978

This paper summarizes a three-year longitudinal study of a differentiated education program for elementary students who have demonstrated exceptionalities in academic and arts areas. Three program options were examined:

- *Interest Activity:* students participated in activities in the area of their gift as supervised by a trained teacher. This took place outside the regular classroom and did not substitute for regular instruction.

- *Curriculum Area Learning Center:* pupils participated in an advanced class in the subject-area of their gift; this class substituted for regular instruction in the subject.

- *Enrichment:* a special teacher assisted the regular teacher in providing additional materials to enrich the child's classroom work. The "enrichment" teacher met frequently with the child to provide additional instruction and to monitor progress.

The evaluation study involved the pre- and post-administration of these instruments during each of the three years of the study:

- *SRA Achievement Tests**
- *Torrance Tests of Creative Thinking*
- *Piers-Harris Children's Self-Concept Test*
- *FIRO-BC*

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*A special testing procedure was developed in conjunction with Dr. Lee Van Arsdale of Science Research Associates for the prevention of ceiling effects.

- A specially constructed self-report instrument which measured attitude toward school and learning.

In addition, during the spring of each year both parents and classroom teachers were surveyed about the development of the pupils in the five areas of testing.

Two comparison groups were selected and tested with the same instruments:

- A group of pupils not in the program with IQ and achievement scores similar to those of pupils in the program.

- A group of pupils selected at random from the general school population in grades four-through six.

The full results from interim reports for each of the three years are available through the ERIC Clearing-House for Handicapped and Gifted Children, Reston, Virginia. Data tapes of all information are available at the cost of reproduction from Frank Morra and Associates, 3510 McKinley Street, N. W., Washington, D. C. 20015.

Selection into the Program

Pupils in grades four through six are nominated to the program by parents, teachers and other interested persons in the community. Pupils in *academic* areas are selected upon the basis of their school records (gross screening) and a program of individual testing by the school psychologist. Pupils enter the *arts* areas after review of either performance or portfolio by a jury composed of teachers in each subject field.

The effects of this selection process were studied by comparing pupils in the program with a random sample of pupils from the general school population. A comparison of the distribution of pupils in each group was made with respect to ethnic background, sex, and socioeconomic status which indicated that the selection was *fair* (i. e., the distribution of pupils in the program was very similar to those in the general population, according to a chi-square test). Further, the program casts a "wide net" in forming the pool of candidates: an estimated twenty-five percent (25%) of all pupils were considered for the program. Finally, a comparison of test scores among these groups found that academic achievement was not the sole basis for selection–and that creativity played an important role in the process.

Thus, the data support the essential "fairness" and sensitivity of the program criteria.

Effect on Academic Achievement

The data show that pupils met the performance standards which had been set in conjunction with the state education agency for all three years of program operation and that the gains in achievement by pupils in the program generally surpassed those of pupils in both the general population *and* those who initially had high achievement scores but were not selected into the program. The performance of pupils in the program has improved beyond the expectations of normal maturation and development during each of the three years of the program.

The highest gains in achievement were made by multitalented pupils—those with gifts in both academic and arts areas. No meaningful differences in achievement were found with respect to socioeconomic status.

Of the three program options, the Curriculum Learning Center appears to produce the largest gains in achievement, particularly in the area of mathematics. However, all program options met or exceeded the performacne standard for achievement.

The data indicated also that there is considerable change in test scores during the *summers* (i. e., between the last measurement in one year and the first measurement in the succeeding year). This effect was not explained in terms of the existing data base and may represent the effects of maturity, consolidation of knowledge or additional learning experiences gained outside the schools.

Effect on Creativity

The data show that pupils in the program are clearly "more creative" than the general population on all four dimensions (i. e., fluency, flexibility, originality, elaboration) measured by the tests. Pupils in the program have had meaningful growth in "creativity" during their association with the program, which meets or exceeds the performance standards set in the area.

The gains in creativity vary according to the program option:

- The *Interest Activity* group scores highest on the *flexibility* subscale which is linked to the *diversity* of production of ideas.
- The *Curriculum Learning Center* group excels on the *originality* and *elaboration* subscales which are linked, respectively, to the production of novel and of well-defined ideas.
- The *Enrichment* group has its best performance on the *fluency* subscale which is linked to the *rate* of production of ideas.

These trends have persisted throughout the study; a full analysis of this phenomenon is beyond the scope of the existing data.

Multitalented pupils have higher scores on the four creativity subscales than those with gifts in one area only. However, there do not appear to be major differences in the creativity scores of academic and arts pupils. This indicates that the growth observed in the scores represents enhanced creativity rather than the manifestation of artistic skills and technqiues.

Further, the changes in creativity do *not* show any appreciable "summer" effect–indicating that growth on the measure is primarily determined by activities which occur during the school year.

Effect on Social Relations

During all three years, concern was expressed by a number of regular teachers and a few parents about the social consequences of providing differentiated education for the gifted: the problems of "elitism" on the part of pupils in the program and of reactivity on the part of those not in the program.

The program has been attentive to these problems through a careful monitoring of the social relations of pupils in the evaluation data.

The results are quite unequivocal: *the program has little or no effect on the social relations of pupils:*

- Pupils are, for the most part, very close to the statistical norms set for the measures of social relations–with the sole exception that they *begin and end* the program with an unusually high degree of independence.

- With the exception of the independence factor, the social relations scores of pupils in the Gifted and Talented Program are virtually indistinguishable from those of pupils who were sampled randomly from the general school population.

The evidence indicates that the program has little or no effect on social relations. In particular, the evidence indicates that the program has not contributed to any social pathologies, such as "elitism."

Effect on Self-Concept

The program has monitored carefully the self-concept of pupils to detect adverse changes, such as "stigmatism" or "over confidence." All sources of information indicate that the pupils began the program with generally normal scores, and that the program has had no significant effect on self-concept.

A "summer" effect was observed in self-concept scores: although there was little change observed *during* the school year, there was a trend toward mild increases, on the order of three points on an eighty-point scale, during the summers.

In comparison with the general population, pupils in the Gifted and Talented Program were found to have slighly higher scores on the self-concept measure. However, both groups were within the statistically normal range.

In addition, the ratings of parents and teachers agreed with the results observed in the student testing program.

Effect on Attitude Toward School and Learning

The program intends to produce a positive attitude toward school and learning, consequently eliminating problems stemming from lack of challenge in the regular classroom.

The student test data showed consistent *decline* in attitude during the school year. However, the longitudinal analysis showed a strong "bounce back" effect during the summers. The net change over the three years is in the direction of a more positive attitude toward school and learning.

Further, in the comparison studies, pupils in the Gifted and Talented Program had more positive attitudes schooling than the general population. These findings have led to the conclusion that the declines observed during the school year may represent the temporary effects of fatigue or a general end-of-year let-down.

When the longitudinal analysis, comparison studies, parent and teacher surveys are combined, they lead to the conclusion that the program indeed has a beneficial effect in enhancing students' attitudes toward school and learning.

Other Issues

The teacher survey data indicate that the program has not had an appreciable effect in the enhancement of regular classroom activities. Teachers gave less than average ratings to the exchange of information among the program and the regular classes, and gave only average ratings to the enhancement of classroom activities.

During Year One, parents criticized the amount of information received about the program. Program management began information dissemination activities. The nature of parent comments have changed during Years Two and Three: parents have moved from a concern about the nature of the program's activities to an interest in the regular reporting of pupils' progress.

Some parents offered comments to the effect that regular classroom teachers were not supportive of the program. However, the survey of teachers established that teachers have a positive attitude toward the differentiated education of the gifted. Thus, teacher resentment of the program seems to be unlikely—although teachers do give the program the lowest ratings of all groups surveyed during the study.

Overall Summary

The bast bulk of the evidence indicates that during the program's three years of funding under Title IV-C ESEA, it has been successful in meeting its stated goals. The program has stimulated the growth of pupils in academic achievement and creativity while preserving their social relations. In addition, the program has a mildly beneficial effect on self-concept and attitude toward school and learning.